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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,129	03/01/2002	Wa-Hing Leung	P67677USO	2752

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JACOBSON HOLMAN PLLC
400 SEVENTH STREET, N.W.
WASHINGTON, DC 20004

EXAMINER

WARD, AARON S

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,129

Applicant(s)

LEUNG, WA-HING

Examiner

Aaron S. Ward

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

The June 15, 2004 Amendment has been considered. Claims 1 and 2 are amended, claims 3-6 are cancelled, and new claims 7-9 are added. Claims 1, 2 and 7-9 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Deese et al. (U.S. Patent No. 5,457,450, already of record).

As to claim 1, Deese et al. teaches a driving circuit 520 (see Figure 9) including connection means 612 to a DC supply 572. The circuit 520 includes a plurality of solid-state lighting devices 506, 507 arranged in one series with connection means 612 to the DC supply 572, and at least one switchable parallel current path 535 from connection means 612/DC supply 572 to an intermediate point (between 506 and 507) along the one series circuit 506, 507 to form an alternative series circuit 507. Current regulating device 509 is in circuit with the one series circuit 506, 507, and driving circuit 520 includes a voltage sensor 574, 578. Control means 582 controls switch 576 to reconfigure the array of LEDs 506, 507 into alternative circuits (column 3, lines 11-17) in response to voltage changes (column 2, lines 20-30). The one series circuit and

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alternative series circuit are connected in parallel upon the reconfiguration (see Fig. 10B), and they have an equated lighting device load after reconfiguration such that current flowing through each lighting device of 506, 507 are at least substantially identical (col. 16, lines 66-67).

As to claim 2, the at least one switchable parallel current path includes a plurality of separately switchable paths (see Figure 10C including 504, 505).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deese et al. as applied to claim 1 above, and further in view of O'Brien, U.S. Patent No. 4,065,716 (already of record).

As to claim 7, Deese et al. teaches the invention as set forth in claim 1, but does not specifically teach that the current regulating device in connection with the one series circuit is a constant current device.

It is known in the art of LED displays to use a constant current device as a current regulating device, as evidenced by O'Brien. O'Brien is directed to an LED display including a series circuit of LEDs (Fig. 1) connected in series with a constant current device C for regulating current.

It would be obvious to combine the teaching of O'Brien with that of Deese et al. because the references are directed to LED displays. One of ordinary skill in the art would be motivated to make the combination because it is desirable to provide consistent brightness in LED displays, and O'Brien teaches the use of a constant current source which provides consistent brightness when used to drive the LED series 506 and 507 as taught by Deese et al. (Fig. 10B).

As to claims 8 and 9, it would be obvious to utilize constant current sources as taught by O'Brien for each of the series 506, 507 taught by Deese et al. (Fig. 10B) because O'Brien teaches that a constant current source is used to drive a series of LEDs, such as 506, 507 taught by Deese et al. It would be obvious to utilize substantially equal sources to maintain consistent brightness between the series 506, 507.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 2 and 7-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron S. Ward whose telephone number is (703) 305-8992. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on (703) 305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASW


DENNIS-DOON CHOW
PATENT EXAMINER